March 8, 1989

The Office of Pipeline Safety recommends that you read the enclosed copy of the latest "Alert Notice" and take appropriate preventive steps.

Sincerely,

Richard L. Beam

DB
C:\WP51\INTERPRT\195\401\89-03-08

ALERT NOTICE

In January 28, 1988, the Office of Pipeline Safety (OPS) issued an Alert Notice advising pipeline operators who have pipe manufactured by the Electric Resistance Weld (ERW) process of the occurrence of twelve hazardous liquid pipeline failures and of actions which operators may take to reduce the risks of similar failures.

The continuing failure of ERW seams remains a matter of concern to the Research and Special Programs Administration (RSPA). Since the issuance of the Alert Notice, the RSPA has data on eight additional hazardous liquid pipeline failures and one on a gas transmission pipeline involving pipe seams manufactured prior to 1970 by the ERW process. Of the eight additional hazardous liquid pipeline failures, two appear to be due to selective corrosion of the ERW seam. As stated in the 1988 Alert Notice, seams with selective corrosion occurring in an area of manufacturing defects may be particularly vulnerable to failure. However, the other failures appear to have resulted from flaw growth of manufacturing defects in the ERW seam.

Two of these failures resulted in some of the most significant spills (more than 20,000 bbls.) in recent years. Both of these failures involved pipelines which had not been hydrostatically tested in accordance with current standards. One of the failures occurred after the long-standing operating pressure had been increased a relatively short period of time before the failure.

This increase in pressure clearly decreased the margin of safety between the operating pressure and highest pressure ever experienced during the life of the pipeline and contributed to the acceleration of the growth of a defect to failure.

The RSPA is planning to conduct research aimed at characterizing ERW defects and their growth rates for variety of environmental conditions, in addition to the pipe having cathodic protection at less than standard pipe-to-soil potentials, coating disbondment, fatigue, and corrosion fatigue. If the research is successful, the resulting data could provide a basis for establishing criteria regarding when an ERW pipeline should be rehydrotested.

In view of the continuing ERW seam failures, OPS recommends that all pipeline operators having ERW pipelines installed prior to 1970:

(1) Consider hydrostatic testing all hazardous liquid pipelines that have not been hydrostatically tested to 125 percent of the maximum allowable pressure, or alternatively reduce the operating pressure 20 percent;

(2) Avoid increasing a pipeline's long-standing operating pressure;

(3) Assure the effectiveness of the cathodic protection system. Consider the use of close interval pipe-to-soil surveys after evaluating the pipe coating and corrosion/cathodic protection history; and

(4) In the event of an ERW seam failure, conduct metallurgical examinations in order to determine the probable condition of the remainder of the ERW seams in the pipeline.

TELECOPIER COVER SHEET

3-8-89

Regarding ERW pipe. This was sent to printing today.

DB
C:\WP51\INTERPRT\195\401\89-03-08